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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2020-0458; Product Identifier 2020-NM-029-AD; Amendment 39-21348; AD 2020-25-06]

RIN 2120-AA64

Airworthiness Directives; Bombardier, Inc., Airplanes

AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for certain Bombardier, Inc., Model BD-100-1A10 airplanes. This AD was prompted by a report that corrosion was found on the shock strut cylinders during unscheduled maintenance of the nose landing gear (NLG). This AD requires a modification of the NLG shock strut cylinder. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective January 27, 2021.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of January 27, 2021.

ADDRESSES: For service information identified in this final rule, contact Bombardier, Inc., 200 Côte-Vertu Road West, Dorval, Québec H4S 2A3, Canada; North America toll-free telephone 1-866-538-1247 or direct-dial telephone 1-514-855-2999; email ac.yul@aero.bombardier.com; internet http://www.bombardier.com. You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195. It is also available on the internet at https://www.regulations.gov by searching for and locating Docket No. FAA-2020-0458.

Examining the AD Docket

You may examine the AD docket on the internet at https://www.regulations.gov by searching for and locating Docket No. FAA-2020-0458; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, any comments received, and other information. The address for Docket Operations is U.S. Department of

Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Darren Gassetto, Aerospace Engineer, Mechanical Systems and Administrative Services Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7323; fax 516-794-5531; email 9-avs-nyaco-cos@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada, has issued Canadian AD CF-2019-43, dated November 8, 2019 ("AD CF-2019-43") (also referred to as the Mandatory Continuing Airworthiness Information, or "the MCAI"), to correct an unsafe condition for certain Bombardier, Inc., Model BD-100-1A10 airplanes. You may examine the MCAI in the AD docket on the internet at https://www.regulations.gov by searching for and locating Docket No. FAA-2020-0458.

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain Bombardier, Inc., Model BD-100-1A10 airplanes. The NPRM published in the Federal Register on June 3, 2020 (85 FR 34141). The NPRM was prompted by a report that corrosion was found on the shock strut cylinders during unscheduled maintenance of the NLG. The NPRM proposed to require a modification of the NLG shock strut cylinder. The FAA is issuing this AD to address corrosion of the NLG, which could result in structural failure of the NLG. See the MCAI for additional background information.

Comments

The FAA gave the public the opportunity to participate in developing this final rule. The following presents the comment received on the NPRM and the FAA's response to that comment.

Request To Revise Certain Compliance Language in the Proposed AD

Flexjet stated that where the compliance section of Bombardier Service Bulletin 100-32-33, Revision 02, dated September 30, 2019, and Figure 1 to paragraph (g) of the proposed AD, specify the compliance time for NLG assemblies with more than 96 months time since new (TSN), the compliance time does not take into account that the NLG cylinders with part number (P/N) 40640-3 and P/N 40640-5 serialized (next higher assembly P/N 40640-105 and subcomponents) are life-limited items with a 7,500 flight cycle discard interval. Flexjet commented that during the first 96 month inspection, if the operator has high flight cycles, it may elect to replace the cylinder at that time. Flexjet also commented that the compliance section of Bombardier Service Bulletin 100-32-33, Revision 02, dated September 30, 2019, does not take into account that a new cylinder could be installed at the 96-month inspection and it also does not address if the cylinder was replaced for another reason after the 96-month inspection.

Flexjet stated that the proposed AD needs to be specific on applying to the nose gear cylinder and sleeve part numbers and not the nose gear or nose gear strut assembly part numbers. Flexjet also stated that the nose gear cylinder and sleeve are the parts with corrosion and the primary reason for the service information. Flexjet pointed out that the sleeve is cut off for inspection of the cylinder and the same part number sleeve goes back on following the inspection. The FAA infers that Flexjet was requesting that the language in paragraphs (g)(1) and (2) of this AD specify that the actions apply to airplanes with NLG assemblies having NLG cylinder assemblies and sleeves with certain part numbers.

The FAA disagrees with the comment. While NLG cylinder assemblies and their subcomponents can be replaced before or after the 96-month interval inspection, paragraphs 2.B. and 2.C. of the Accomplishment Instructions of Bombardier Service Bulletin 100-32-33, Revision 02, dated September 30, 2019, ensure the proper corrective actions are taken to prevent corrosion with those replaced components when reassembled on the NLG assembly. This is why the identification on the NLG assembly modplate is required. In addition, paragraph (f) of this AD specifies to, "Comply with this AD within the compliance times specified, unless already done." Therefore, if some of the specified corrective actions are already complied with, only the remaining corrective actions in the AD need to be completed to comply with this AD. The FAA has not changed this AD in this regard.

Conclusion

The FAA reviewed the relevant data, considered the comment received, and determined that air safety and the public interest require adopting this final rule as proposed, except for minor editorial changes. The FAA has determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM for addressing the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

Related Service Information Under 1 CFR Part 51

Bombardier has issued Service Bulletin 100-32-33, Revision 02, dated September 30, 2019; and Service Bulletin 350-32-009, Revision 02, dated September 30, 2019. This service information describes procedures for modification of the NLG shock strut cylinder. These documents are distinct since they apply to different airplane serial numbers. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Costs of Compliance

The FAA estimates that this AD affects 560 airplanes of U.S. registry. The FAA estimates the following costs to comply with this AD:

Estimated Costs for Required Actions

Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Up to 54 work-hours × $85 per hour = Up to $4,590	$43,999	Up to $48,589	Up to $27,209,840

Authority for This Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

(1) Is not a "significant regulatory action" under Executive Order 12866,

(2) Will not affect intrastate aviation in Alaska, and

(3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39–AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

2020-25-06 Bombardier, Inc.: Amendment 39-21348; Docket No. FAA-2020-0458; Product Identifier 2020-NM-029-AD.

(a) Effective Date

This AD is effective January 27, 2021.

(b) Affected ADs

None.

(c) Applicability

This AD applies to Bombardier, Inc., Model BD-100-1A10 airplanes, certificated in any category, serial numbers (S/Ns) 20003 through 20767 inclusive.

(d) Subject

Air Transport Association (ATA) of America Code 32, Landing gear.

(e) Reason

This AD was prompted by a report that corrosion was found on the shock strut cylinders during unscheduled maintenance of the nose landing gear (NLG). The FAA is issuing this AD to address corrosion of the NLG, which could result in structural failure of the NLG.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Modification for Airplanes With S/N 20003 Through 20500 Inclusive

For Bombardier, Inc., Model BD-100-1A10 airplanes with S/N 20003 through 20500 inclusive: At the applicable compliance time specified in paragraph (g)(1) or (2) of this AD, do the modification in paragraph (g)(1) or (2) of this AD, as applicable.

(1) For airplanes with NLG assemblies with 96 months or less time since new (TSN) as of the effective date of this AD: At the NLG 96-month scheduled inspection, do a modification of the NLG shock strut cylinder, in accordance with paragraph 2.B. of the Accomplishment Instructions of Bombardier Service Bulletin 100-32-33, Revision 02, dated September 30, 2019.

(2) For airplanes with NLG assemblies with more than 96 months TSN as of the effective date of this AD: At the applicable compliance time specified in figure 1 to paragraph (g) of this AD, do a modification of the NLG shock strut cylinder, in accordance with paragraph 2.C. of the Accomplishment Instructions of Bombardier Service Bulletin 100-32-33, Revision 02, dated September 30, 2019.

Figure 1 to paragraph (g) – *Compliance time*

NLG Assemblies with TSN as of the effective date of this AD	Compliance time from the effective date of this AD
More than 96 months, but less than 108 months	Within 56 months
108 months or more, but less than 120 months	Within 50 months
120 months or more, but less than 132 months	Within 44 months
132 months or more, but less than 144 months	Within 36 months
144 months or more, but less than 156 months	Within 27 months
156 months or more, but less than 174 months	Within 18 months
174 months or more, but less than 192 months	At 192-month overhaul

(h) Modification for Airplanes With S/N 20501 Through 20767 Inclusive

For Bombardier, Inc., Model BD-100-1A10 airplanes with S/N 20501 through 20767 inclusive: At the NLG 96-month scheduled inspection, do a modification of the NLG shock strut cylinder, in accordance with paragraph 2.B. of the Accomplishment Instructions of Bombardier Service Bulletin 350-32-009, Revision 02, dated September 30, 2019.

(i) Parts Installation Limitation

As of the effective date of this AD, no person may install, on any airplane, an NLG shock strut assembly with part number (P/N) 40630-111, P/N 40630-113, or P/N 44630-101, unless it has been modified in accordance with paragraphs 2.B. or 2.C. of the Accomplishment Instructions of Bombardier Service Bulletin 100-32-33, Revision 02, dated September 30, 2019; or paragraph 2.B. of the Accomplishment Instructions of Bombardier Service Bulletin 350-32-009, Revision 02, dated September 30, 2019; as applicable.

(j) Credit for Previous Actions

(1) This paragraph provides credit for actions required by paragraph (g) of this AD, if those actions were performed before the effective date of this AD using paragraph 2.B. or 2.C., as applicable, of Bombardier Service Bulletin 100-32-33, dated October 31, 2018; or Bombardier Service Bulletin 100-32-33, Revision 01, July 31, 2019.

(2) This paragraph provides credit for actions required by paragraph (h) of this AD, if those actions were performed before the effective date of this AD using paragraph 2.B. of Bombardier Service Bulletin 350-32-009, dated October 31, 2018; or Bombardier Service Bulletin 350-32-009, Revision 01 dated July 31, 2019; provided that the NLG shock strut assembly with P/N 44630-101 was removed in lieu of P/N 44610-101, as specified in paragraph 2.B.(1) of the Accomplishment Instructions of Bombardier Service Bulletin 350-32-009, dated October 31, 2018; or Bombardier Service Bulletin 350-32-009, Revision 01 dated July 31, 2019.

(k) Other FAA AD Provisions

The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, New York ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight

Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; fax 516-794-5531. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(2) Contacting the Manufacturer: For any requirement in this AD to obtain instructions from a manufacturer, the instructions must be accomplished using a method approved by the Manager, New York ACO Branch, FAA; or Transport Canada Civil Aviation (TCCA); or Bombardier's TCCA Design Approval Organization (DAO). If approved by the DAO, the approval must include the DAO-authorized signature.

(l) Related Information

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) Canadian AD CF-2019-43, dated November 8, 2019, for related information. This MCAI may be found in the AD docket on the internet at https://www.regulations.gov by searching for and locating Docket No. FAA-2020-0458.

(2) For more information about this AD, contact Darren Gassetto, Aerospace Engineer, Mechanical Systems and Administrative Services Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7323; fax 516-794-5531; email 9-avs-nyaco-cos@faa.gov.

(3) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (m)(3) and (4) of this AD.

(m) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(i) Bombardier Service Bulletin 100-32-33, Revision 02, dated September 30, 2019.

(ii) Bombardier Service Bulletin 350-32-009, Revision 02, dated September 30, 2019.

(3) For service information identified in this AD, contact Bombardier, Inc., 200 Côte-Vertu Road West, Dorval, Québec H4S 2A3, Canada; North America toll-free telephone 1-866-538-1247 or direct-dial telephone 1-514-855-2999; email ac.yul@aero.bombardier.com; internet http://www.bombardier.com.

(4) You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email fedreg.legal@nara.gov, or go to: https://www.archives.gov/federal-register/cfr/ibr-locations.html.

Issued on December 1, 2020.

Gaetano A. Sciortino,

Deputy Director for Strategic Initiatives, Compliance & Airworthiness Division, Aircraft Certification Service.

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